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**(Australian Petty Patent)**

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**A LABORATORY BENCH ARRANGEMENT**
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- (56) Prior Art Documents  
**AU 545759 69534/81 B01L 9/02**
- (57) Claim

1. A laboratory bench arrangement comprising a plurality of services towers between each pair of which extends a narrow bench at working surface height above the floor, and at least one shelf located above said narrow bench and extending between a corresponding pair of said service towers, the ends of said shelves and narrow benches being arranged to mate with the adjacent corresponding portion of the horizontal cross-sectional profile of said towers, fluid and electrical services supply means ascending within the interior of said towers and exiting therefrom above the height of at least said narrow bench, and at least one movable table-like article of furniture arranged alongside a side edge of, and having a working surface substantially flush with, said narrow bench.

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AUSTRALIA

PATENTS ACT 1990

**PETTY PATENT SPECIFICATION**

ORIGINAL

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Invention Title:

A Laboratory Bench Arrangement

The following statement is a full description of this invention, including the best method of performing it known to me/us:-



The present invention relates to laboratories and, in particular, to a laboratory bench arrangement which is particularly convenient in that conventional benches can be used.

A particularly advantageous laboratory arrangement is disclosed in  
5 Australian Patent No. 545,759 (69534/81) owned by the present applicant  
and invented by the inventor of the present invention. This arrangement  
includes a single services tower and a plurality of bench or table-like  
articles of furniture surrounding the tower in which a portion of the  
periphery of the upper surfaces of the bench or table-like articles of  
10 furniture is shaped to be complimentary with a corresponding portion of  
the cross-sectional shape of the tower. This enables the benches or  
table-like articles of furniture to each abut each other and to also  
abut the services tower.

Whilst the above mentioned arrangement has met with substantial  
15 commercial success, the arrangement suffers from the disadvantage that  
the benches or table-like articles of furniture must be non-standard in  
order to compliment the shape of the cross-sectional profile of the  
services tower. In addition, the north-south, east-west freedom in  
alignment of the benches is generally not necessary in most applications.

20 It is the object of the present invention to provide a laboratory  
bench arrangement having many of the freedoms of the arrangement  
disclosed in the above mentioned Australian Patent, but which is able to  
utilise substantially conventional benches without a modified periphery.

According to one aspect of the present invention there is  
25 disclosed a laboratory bench arrangement comprising a plurality of  
services towers between each pair of which extends a narrow bench at  
working surface height above the floor, and at least one shelf located  
above said narrow bench and extending between a corresponding pair of  
said service towers, the ends of said shelves and narrow benches being  
30 arranged to mate with the adjacent corresponding portion of the  
horizontal cross-sectional profile of said towers, fluid and electrical  
services supply means ascending within the interior of said towers and  
exiting therefrom above the height of at least said narrow bench, and at  
least one movable table-like article of furniture arranged alongside a  
35 side edge of, and having a working surface substantially flush with,  
said narrow bench.

Preferably a set of benches is provided which has three of the  
towers aligned with each other. The end two of the towers have a

triangular horizontal cross-sectional profile and the intermediate one of the towers having a lozenge-shaped horizontal cross-sectional profile, with each end of each of the shelves and narrow benches being provided with a substantially V-shaped rebate.

5           According to a second aspect of the present invention there is disclosed a laboratory bench arrangement made up from a plurality of the above mentioned sets of benches each arranged in a side-by-side regular array with the space between each pair of bench sets forming a working row space, and the region adjacent the or each end of the bench sets  
10 forming an access corridor.

One embodiment of the present invention will now be described with reference to the drawings in which:

Fig. 1 is a partially exploded perspective view of a single laboratory bench set in accordance with the preferred embodiment,

15           Fig. 2 is a plan view of the bench set of Fig. 1,

Fig. 3 is a plan view similar to Fig. 2 but illustrating the removal of two of the components illustrated in exploded fashion in Fig. 1,

20           Fig. 4 is a side elevation looking in the direction IV of Fig. 2,

Fig. 5 and Fig. 6 are end elevations looking in the directions V and VI respectively in Fig. 2,

Fig. 7 is an elevation looking in the direction of VII of Fig. 2,

Fig. 8 is an end elevation looking in the direction of V in Fig. 2 but illustrating the arrangement as illustrated in Fig. 3,

25           Fig. 9 is a longitudinal vertical cross-sectional view along the line IX-IX of Fig. 2,

Fig. 10 is a plan view showing three bench sets arranged to provide two working row spaces and two corridors, and

30           Fig. 11 is a plan view similar to Fig. 10 but illustrating nine bench sets having two access corridors and six working row spaces.

As seen in Figs. 1-9, the laboratory bench set 1 of the preferred embodiment is formed from two end services towers 2 and an intermediate services tower 3. The end towers 2 are preferably triangular in cross-section while the intermediate tower 3 is of lozenge-shape  
35 cross-section, and preferably a square diamond. Extending between each pair of towers is a narrow bench 4, 5 the bench 4 is provided with a narrow sink 6.

Each of the services towers 2, 3 is provided with the outlets of various electrical and fluid services such as electrical general purpose outlets 7, gas taps 8 and water taps 9. As illustrated in Fig. 9, these services pass through conduits 10 provided in the interior of the towers 2, 3.

Also positioned between the towers 2, 3 and above the narrow bench 4 are two shelves 12 which provide convenient storage space and are readily accessible. The shelves 12 and narrow benches 4, 5 have each end provided with a V-shaped rebate 13 which corresponds with, and mates with, the shape of the adjacent portion of the towers 2, 3.

Lying along side the narrow benches 4, 5 are up to four substantially conventional articles of furniture in the form of bench 15 having a cupboard 16 underneath, sink top 17 having a set of drawers 18 underneath, desk 19 and bench 20. As indicated schematically in the drawings, each of these items of furniture is individually removable so as to permit the configuration of the laboratory bench 1 to be changed in accordance with the day-to-day requirements of the users.

Fig. 10 illustrates a first preferred form or set out of a number of the bench sets 1. Here the bench sets are arranged in a single column 25 of parallel arranged bench sets 1, there being a working row space 26 between each pair of bench sets 1 and two access corridors 27 available at each end of the bench sets 1. This arrangement is to be preferred since it enables two escape routes to be available for any of the twelve working sites.

Fig. 11 illustrates a second preferred form in which the bench sets are arranged in three columns 25 with the outer most columns 25 having the bench sets end abutted against the walls of the laboratory. Again two access corridors 27 are provided.

If the laboratory were arranged with only two columns 25 of bench sets as indicated by the broken line in Fig. 11 which indicates a possible wall, with each bench set being end abutted against a wall of the laboratory, this would have the disadvantage of only providing a single access corridor 27. For this reason this configuration is not preferred, especially in those laboratories where poisonous gases may be liberated as a result of some malfunction.

The foregoing describes only some embodiments of the present invention and modifications, obvious to those skilled in the art, can be made thereto without departing from the scope of the present invention.

The claims defining the invention are as follows:

1. A laboratory bench arrangement comprising a plurality of services towers between each pair of which extends a narrow bench at working surface height above the floor, and at least one shelf located above said narrow bench and extending between a corresponding pair of said service towers, the ends of said shelves and narrow benches being arranged to mate with the adjacent corresponding portion of the horizontal cross-sectional profile of said towers, fluid and electrical services supply means ascending within the interior of said towers and exiting therefrom above the height of at least said narrow bench, and at least one movable table-like article of furniture arranged alongside a side edge of, and having a working surface substantially flush with, said narrow bench.

2. An arrangement as claimed in claim 1 and having three of said towers aligned with each other, the end two of said towers having a triangular horizontal cross-sectional profile and the intermediate one of said towers having a lozenge-shaped horizontal cross-sectional profile, and each end of each of said shelves and narrow benches being provided with a substantially V-shaped rebate.

3. A laboratory bench arrangement comprising a plurality of sets of benches each arranged in a side-by-side regular array, the space between each pair of bench sets comprising a working row space, and the region adjacent one, or both, end(s) of each bench set comprising an access corridor, each said bench set comprising a laboratory bench arrangement as claimed in claim 2.

DATED this TWENTY SIXTH day of MAY 1993

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SPRUSON & FERGUSON

## **A Laboratory Bench Arrangement**

### **ABSTRACT**

The present invention discloses a laboratory bench arrangement having a number of bench sets (1). Each bench set is formed from two  
5 end towers (2) and an intermediate tower (3) positioned between same. Narrow benches (4,5) and shelves (12) extend between the towers (2,3). Each end of the benches (4,5) and shelves (12) is provided with a V-shaped rebate which mates with the towers (2,3). The bench sets are preferably arranged in a regular array of columns and rows with two  
10 access corridors.

Fig. 1



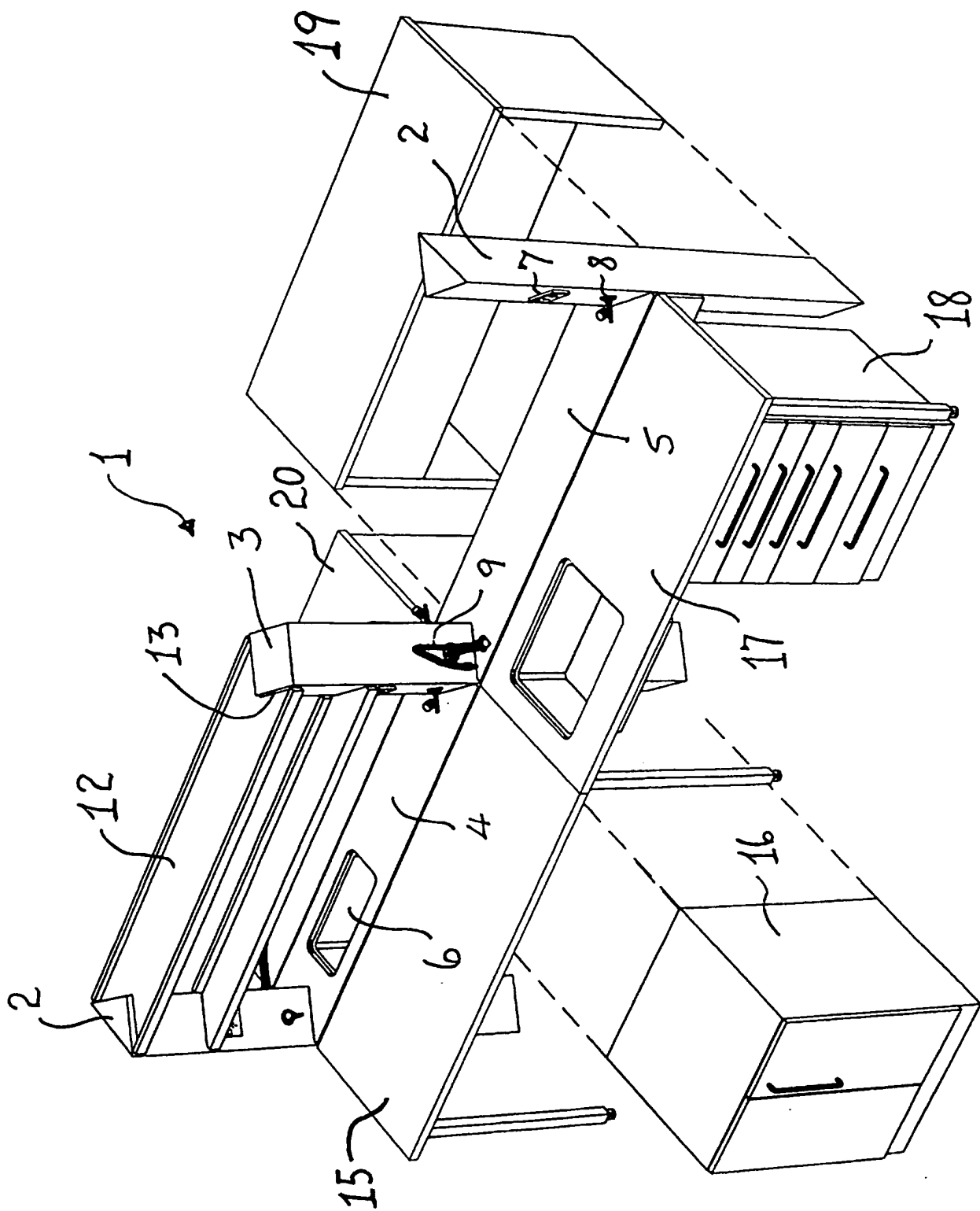


FIG. 1



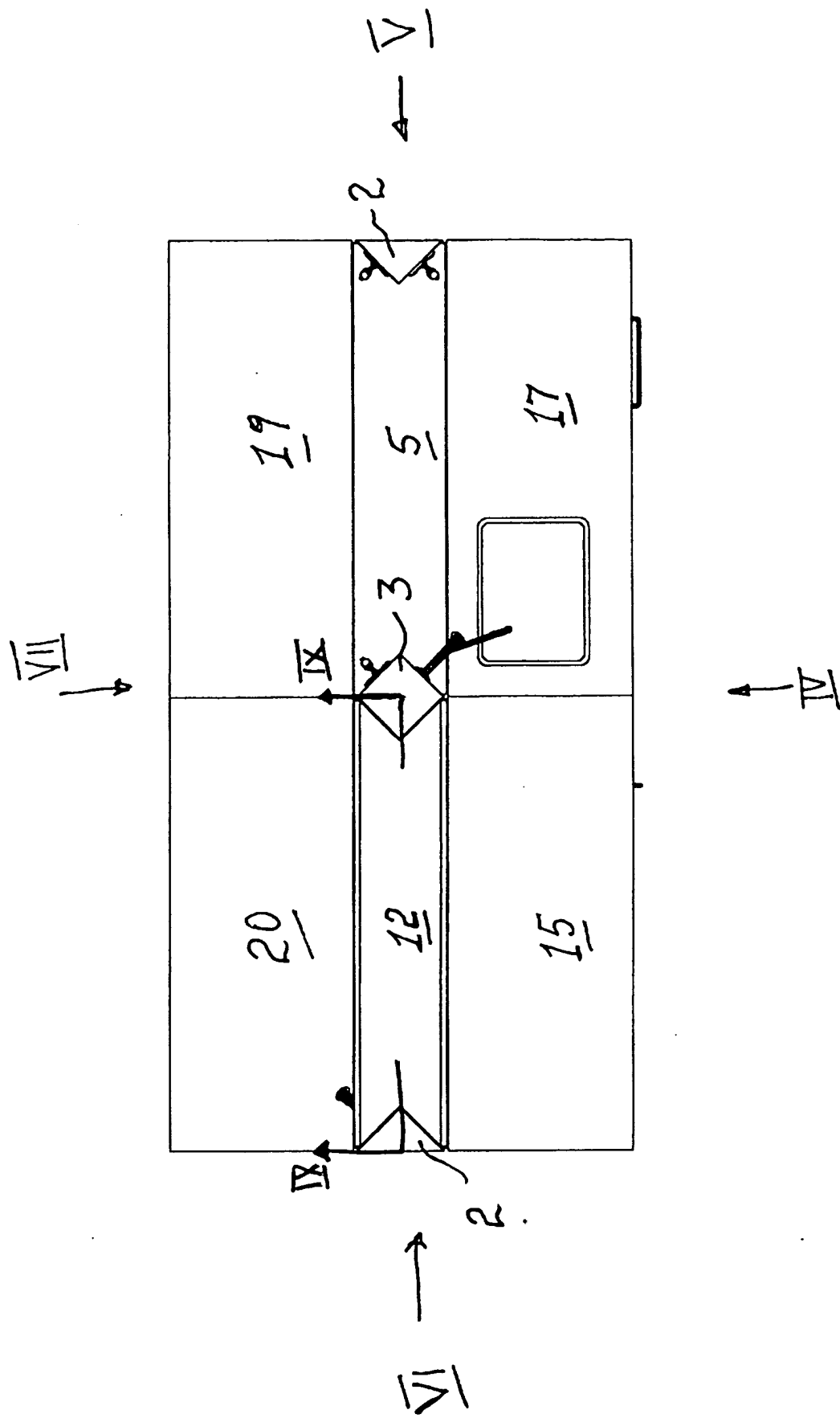


FIG. 2

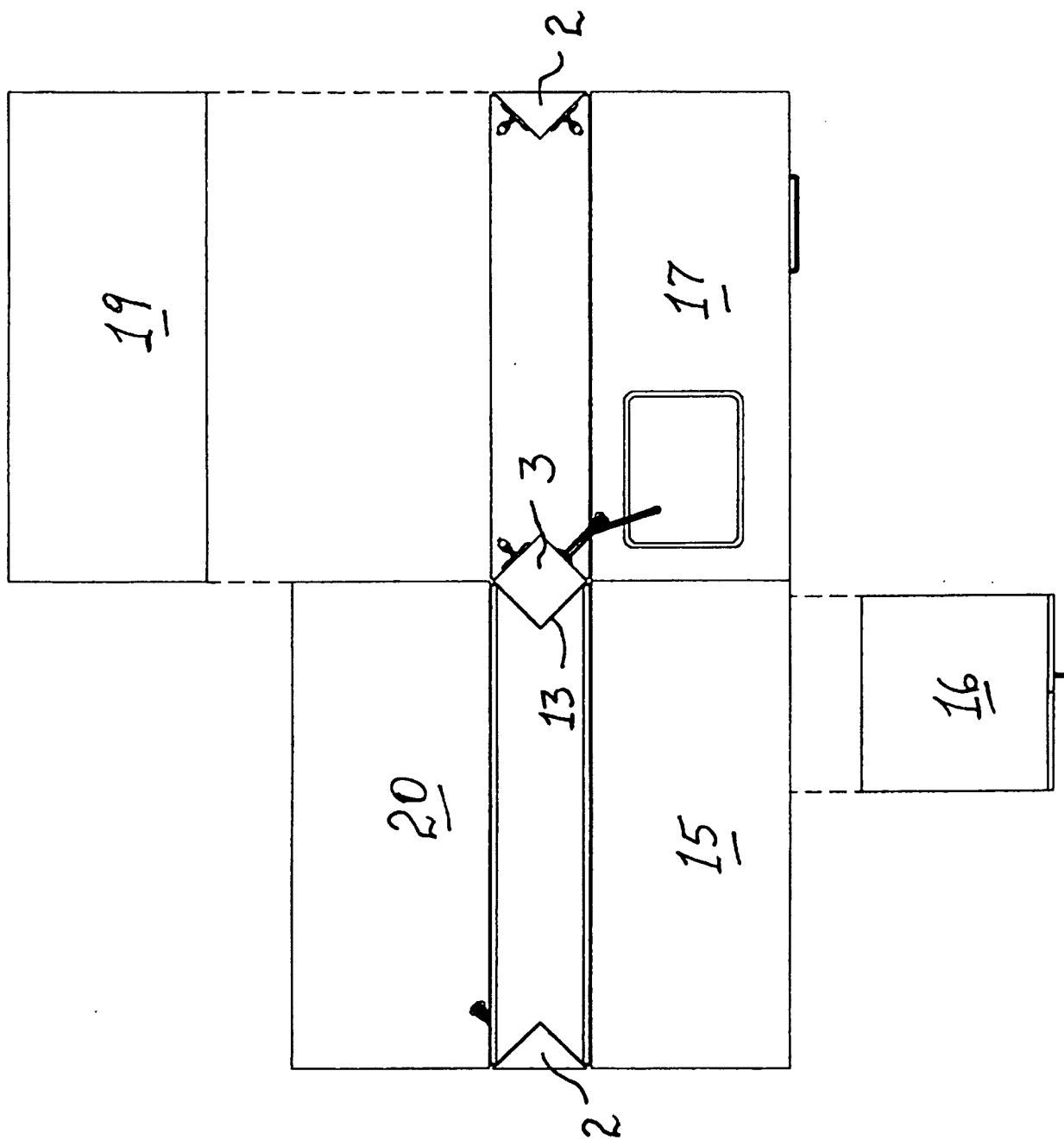


FIG. 3

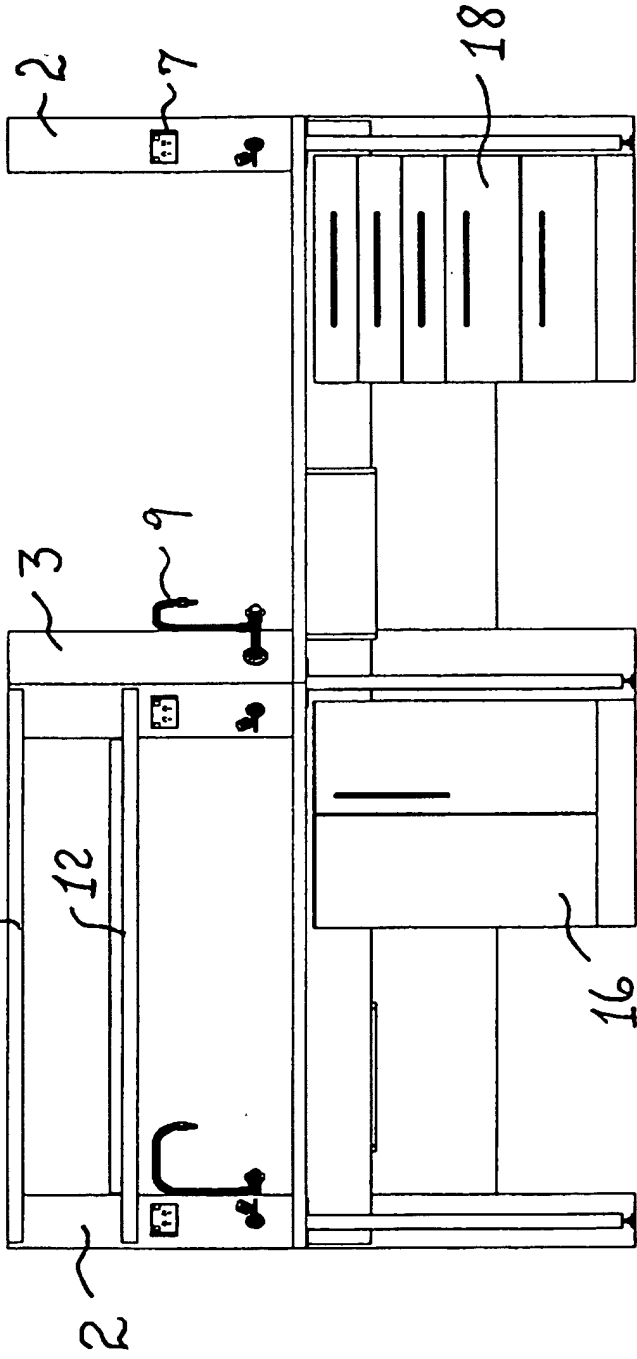


FIG. 4

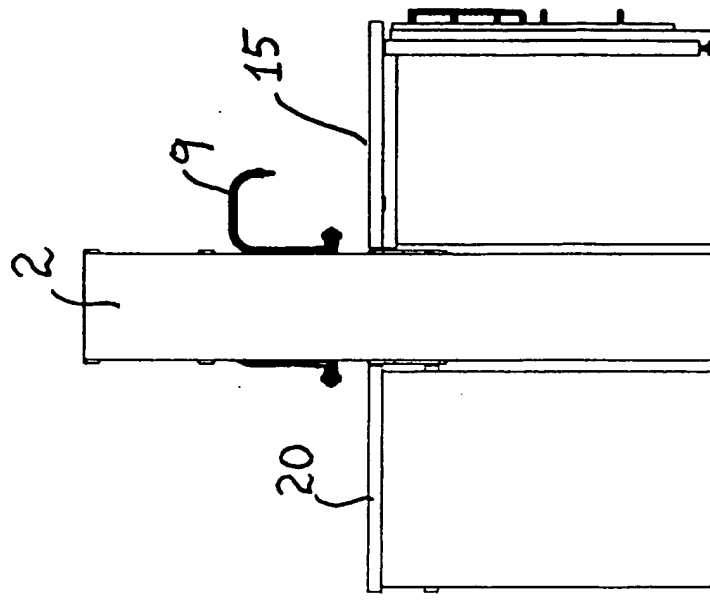


FIG. 6

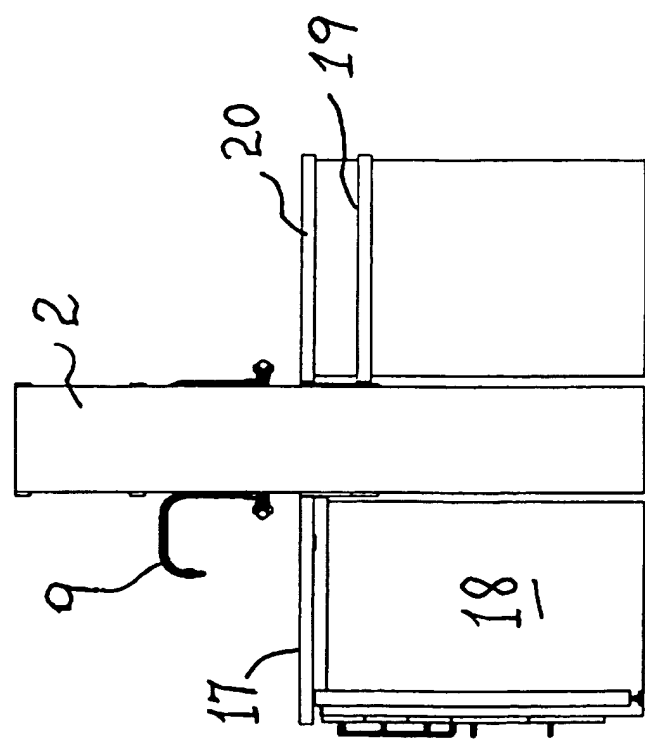


FIG. 5

3 0 0 0

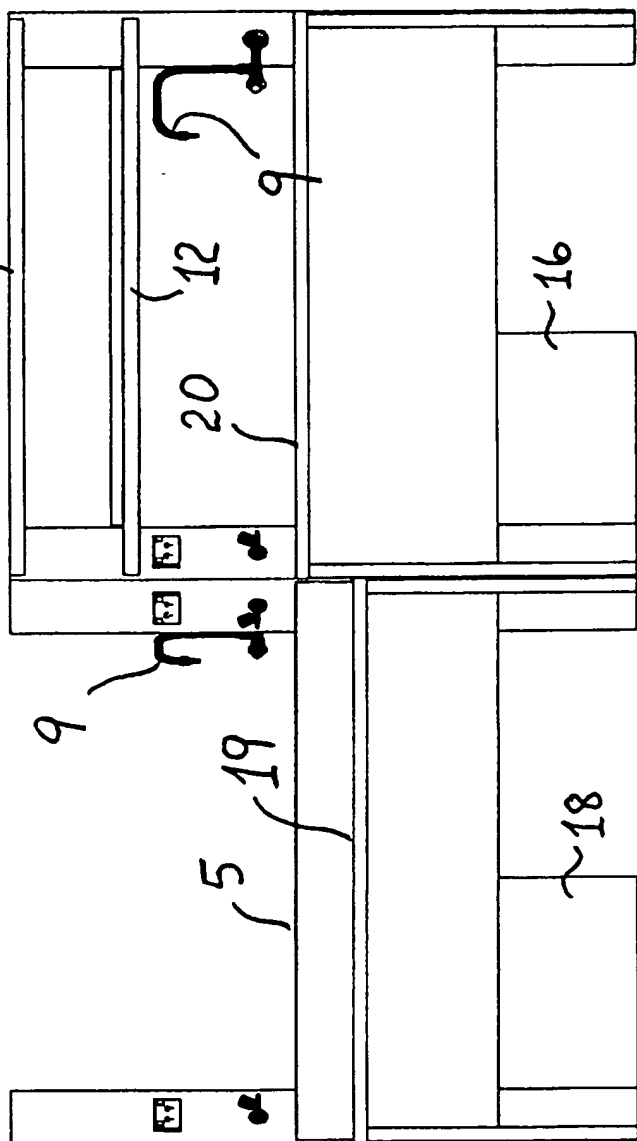


FIG 7

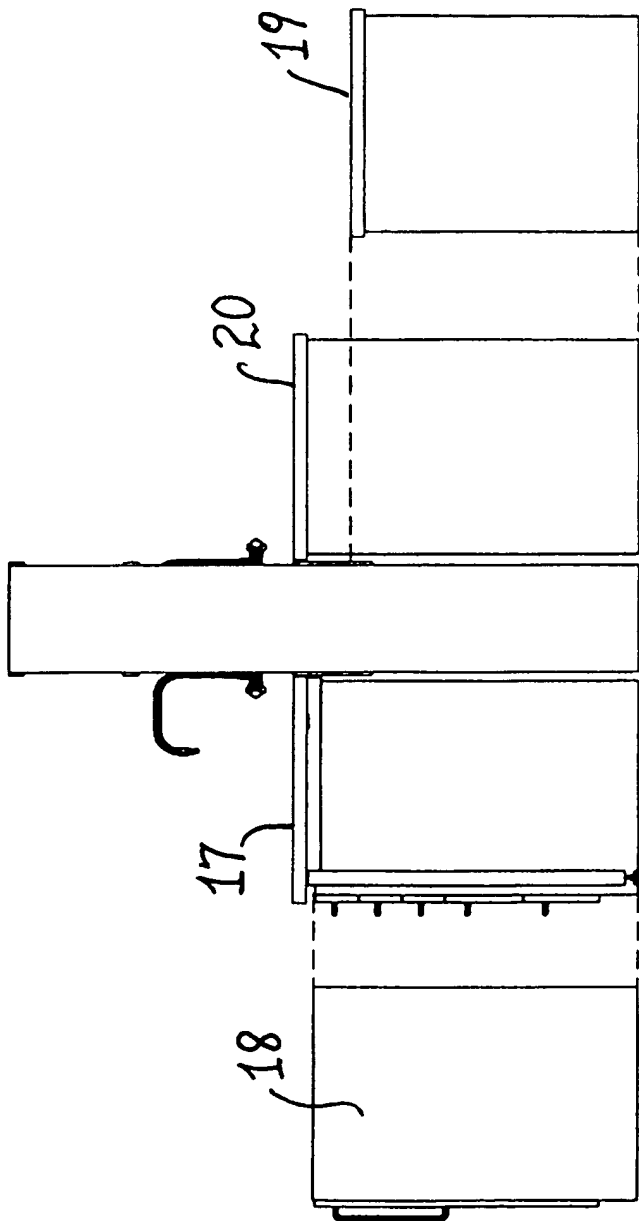


FIG. 8

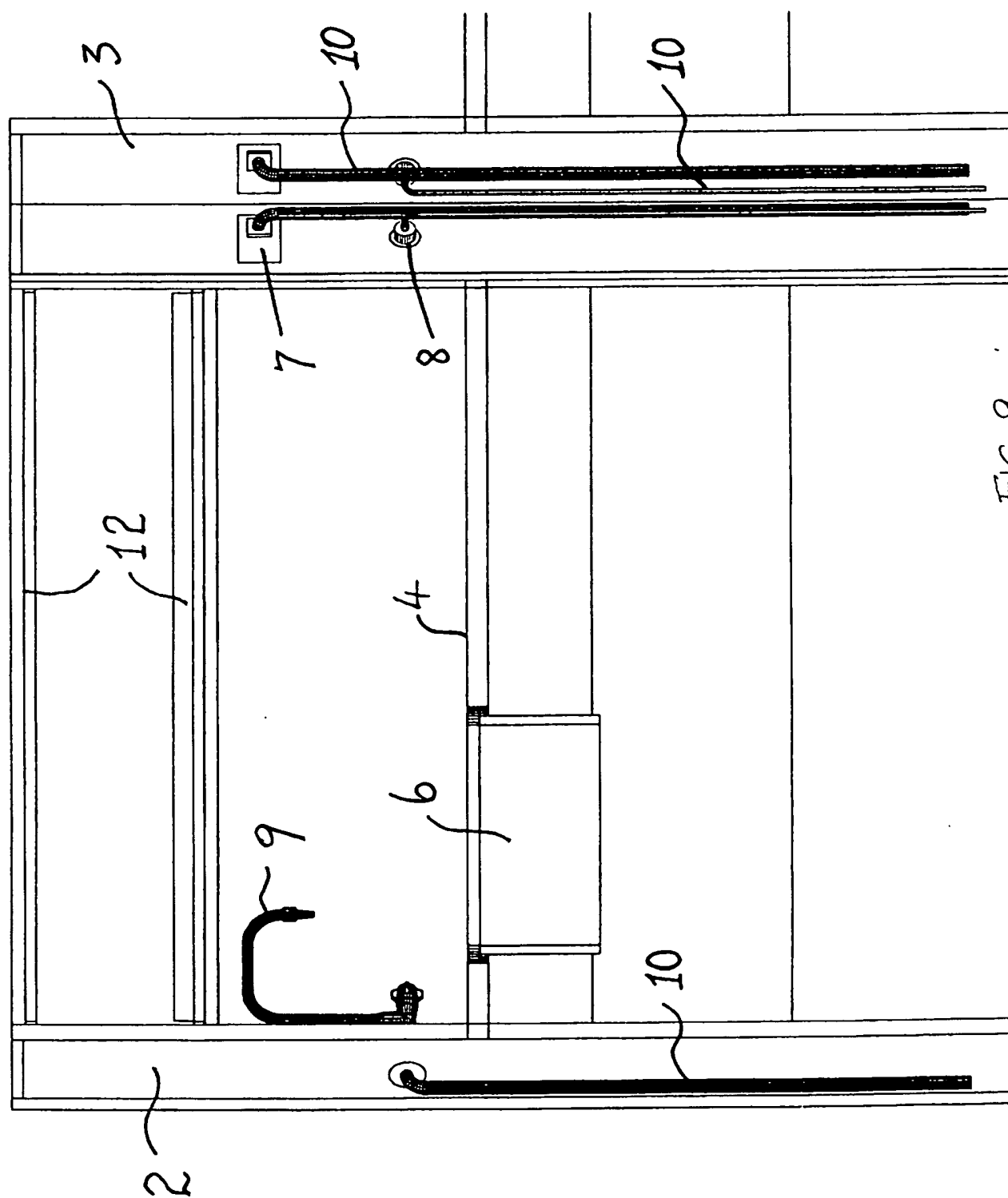


FIG. 9

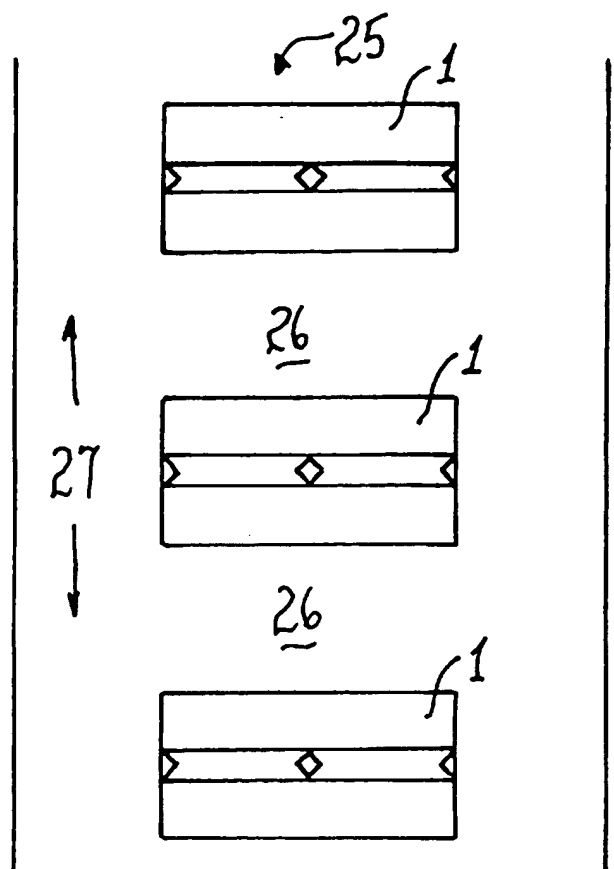


FIG. 10

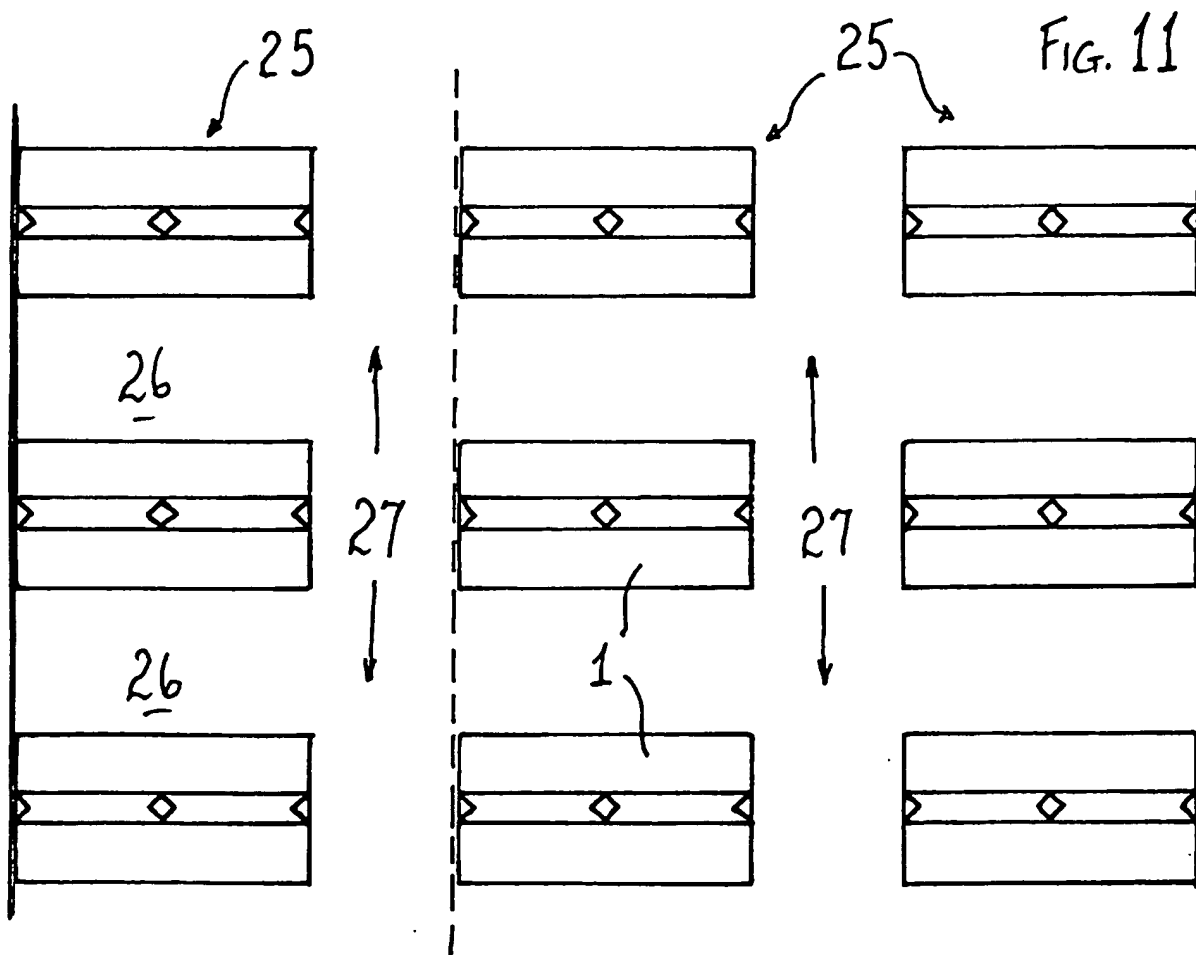


FIG. 11